KINGTIME INTERNATIONAL LTD v. PETRONAS CARIGALI SDN BHD & ANOTHER APPEAL

COURT OF APPEAL, PUTRAJAYA
LEE SWEE SENG FCJ
CHOO KAH SING JCA
FAIZAH JAMALUDIN JCA
[CIVIL APPEAL NOS: W-02(IPCV)(W)-1457-09-2023
& W-02(IPCV)(W)-1458-09-2023]
5 NOVEMBER 2025

Abstract – *An employer/purchaser of a commissioned product may be deemed a 'privy in interest' of the contractor/supplier who designed, constructed, and installed that product under a contract, if the employer/purchaser had a sufficient degree of identification, connection, and interest in the subject matter of the dispute, ie, the product and the underlying patents. When such privity in interest is established, the employer/purchaser is bound by an earlier final judgment involving the contractor that determined the validity of the relevant patents, and is thus estopped from subsequently contesting or re-litigating the patent's validity in a new suit initiated by the patent owner against the employer/purchaser for the latter's subsequent and distinct infringing acts.*

INTELLECTUAL PROPERTY: *Patent – Infringement – Mobile offshore production unit ('MOPU') – Patents relating to offshore production units with removeable wellhead support structures – Respondent awarded engineering, procurement, construction, installation and commissioning contract to third-party contractor for design, construction and installation of MOPU – Whether respondent privy to contractor in earlier patent infringement suit – Whether respondent bound by earlier judgment finding MOPU infringed patents – Whether there was sufficient privity of interest between contractor and respondent – Whether respondent's close involvement in design, engineering, procurement, construction and installation of MOPU established privity – Whether respondent estopped from challenging validity of patents – Patents Act 1983, ss. 11, 14, 15, 23, 27A(1), 35(1), 36(1), 36(2), 36(3), 56 & 56(2)*

CIVIL PROCEDURE: *Res judicata – Issue estoppel – Patent infringement – Earlier final judgment finding contractor infringed patents by designing, constructing and installing mobile offshore production unit ('MOPU') – Subsequent suit by patent owner against employer/purchaser of MOPU – Whether employer privy to contractor – Whether employer bound by earlier judgment – Test for privity of interest – Whether there was sufficient degree of identification and connection between parties – Whether employer had legal or beneficial interest in subject matter of earlier litigation – Whether just to bind employer to earlier judgment*

CIVIL PROCEDURE: *Estoppel – Estoppel per rem judicatam – Requirements for issue estoppel – Whether same question decided – Whether judicial decision final – Whether parties or their privies same persons – Meaning of 'privy' – Privity of blood, title or interest – Test for privity of interest – Whether sufficient community or privity of interest between parties*

The appellant, Kingtime International Ltd ('Kingtime'), was the proprietor of two Malaysian patents ('Kingtime patents') for an offshore unit featuring a removably attached wellhead support structure, a technology suited for marginal oil fields. In a prior suit ('Petrofac suit'), Kingtime had successfully sued Petrofac E&C Sdn Bhd ('Petrofac') for infringing the Kingtime patents. The infringement arose from Petrofac's design, construction, and installation of a mobile offshore production unit ('MOPU Sepat') for the respondent, Petronas Carigali Sdn Bhd ('PCSB'), pursuant to an engineering, procurement, construction, installation and commissioning ('EPCIC') contract. The High Court, in the Petrofac suit, held the Kingtime patents to be valid and infringed, a decision that was affirmed on appeal and became final ('*Petrofac* judgment'). Following this, Kingtime initiated the present infringement suit against PCSB for its subsequent acts of accepting delivery, stocking, and using the very same MOPU Sepat. In response, PCSB filed a separate suit seeking to invalidate the Kingtime patents. The two suits were consolidated. The High Court dismissed Kingtime's infringement claim and allowed PCSB's invalidation suit. The Judicial Commissioner ('JC') held that: (i) PCSB was not a privy of Petrofac and was therefore not bound by the *Petrofac* judgment; and (ii) the Kingtime patents were invalid for lacking an inventive step and, consequently, that PCSB had not infringed them. Kingtime appealed against this decision. The central issues on appeal were (i) whether PCSB was a privy of Petrofac and thus bound by the *Petrofac* judgment under the doctrine of *res judicata* and estoppel; and (ii) whether the High Court had erred in law by invalidating the patents without a separate assessment of all dependent claims.

Held (allowing appeals with costs; setting aside High Court's order and remitting matter for assessment of damages)
Per Faizah Jamaludin JCA delivering the judgment of the court:

(1) The JC's conclusion that PCSB did not constitute a privy of Petrofac in the context of the *Petrofac* judgment was erroneous for several reasons: (i) there was an inadequate appreciation of the available evidence regarding the degree of PCSB's involvement and interest in the design, engineering, construction, and installation of the MOPU Sepat, which was clearly documented in the relevant contractual terms in the Sepat EPCIC contract, particularly the MOPU scope of works, which were not sufficiently considered; (ii) the JC's analysis was undermined by the consideration of factors that were not relevant to the issue at hand. Rather than focusing on the factual identity and connection between

PCSB and Petrofac, and the common interest shared in the MOPU Sepat, he had considered the distinctions between the Petrofac suit and the PCSB suit, which led to a lack of sufficient evaluation of the factors that were truly relevant to determining privity of interest; and (iii) there was a misdirection in the application of the correct legal test for privity of interest. The correct approach required evaluating whether there was a sufficient degree of identification, connection, and interest between the parties in the subject matter of the dispute. (para 105)

(2) Kingtime had brought the infringement suit against PCSB for separate and distinct infringing acts from Petrofac's infringing acts. It was not seeking to challenge or re-litigate the *Petrofac* judgment. *Res judicata* did not apply and Kingtime was not estopped by the *Petrofac* judgment from filing the infringement suit against PCSB. As a privy of Petrofac, PCSB was bound by the decision in the *Petrofac* judgment, which determined that the Kingtime patents were valid. PCSB was therefore estopped from contesting or re-litigating the validity of the Kingtime patents, as this matter had already been conclusively adjudicated. (paras 112 & 113)

(3) Kingtime was not estopped from instituting the infringement suit against PCSB. Kingtime's cause of action against PCSB was distinct and separate from its claim against Petrofac, and it did not involve re-litigating issues already determined in the *Petrofac* judgment. As such, *res judicata* did not operate to bar Kingtime's infringement suit. In contrast, PCSB, as a privy of Petrofac, was bound by the findings and determinations made in the *Petrofac* judgment. Therefore, PCSB was estopped from commencing the invalidation suit to re-open issues relating to the validity of the Kingtime patents that had already been conclusively adjudicated in the *Petrofac* judgment. *Res judicata* operated to prevent PCSB from re-litigating matters relating to the validity of the Kingtime patents that had previously been determined in the *Petrofac* judgment. (paras 114-115)

(4) At the trial before the High Court, PCSB only adduced evidence to prove the invalidity of the relevant claims. It did not adduce evidence proving the invalidity of all claims – both independent and dependant claims – in the Kingtime patents. Furthermore, PCSB's expert witnesses did not confirm that there were no additional features in the Kingtime patents that made the dependent claims independently valid. It was clear from the *PCSB* judgment that the JC failed to undertake the necessary assessments prior to invalidating the Kingtime patents. This did not fulfil the evidential obligations expected of a trial judge presiding over an invalidation suit. (paras 129-130)

Case(s) referred to:

Actavis UK Ltd & Ors v. Eli Lilly & Co And Other Appeals [2018] 1 All ER 171 ***(refd)***
Asia Commercial Finance (M) Bhd v. Kawal Teliti Sdn Bhd [1995] 3 CLJ 783 SC ***(refd)***
Carl Zeiss Stiftung v. Rayner & Keeler Ltd & Ors [1967] 1 AC 853 ***(refd)***
Gan Yook Chin & Anor v. Lee Ing Chin & Ors [2004] 4 CLJ 309 FC ***(refd)***
Gleeson v. J Wippell & Co Ltd [1977] 3 All ER 54 ***(refd)***
House Of Spring Gardens Ltd v. Waite [1991] 1 QB 241 ***(refd)***
Improver Corp & Ors v. Remington Consumer Products Ltd & Ors [1990] FSR 181 ***(refd)***
Kingtime International Ltd & Anor v. Petrofac E & C Sdn Bhd [2018] CLJU 1658; [2018] 1 LNS 1658 HC ***(refd)***
Kluang Wood Products Sdn Bhd & Anor v. Hong Leong Finance Bhd & Anor [1999] 1 CLJ 1 SC ***(refd)***
M-Fold Development Sdn Bhd v. Altrue Sdn Bhd [2002] 2 CLJ 44 HC ***(refd)***
Main-Line Corporate Holdings Ltd v. United Overseas Bank Ltd And Another (First Currency Choice Pte Ltd, Third Party) [2010] 1 SLR 189 ***(refd)***
Merck Sharp & Dohme Group & Anor v. Hovid Bhd [2019] 9 CLJ 1 FC ***(refd)***
Ng Hoo Kui & Anor v. Wendy Tan Lee Peng, Administrator Of The Estates Of Tan Ewe Kwang, Deceased & Ors [2020] 10 CLJ 1 FC ***(refd)***
Nor Azlina Abdul Aziz v. Expert Project Management Sdn Bhd [2017] 5 CLJ 58 CA ***(refd)***
Rodi & Weinberger Ag v. Henry Showell Ltd [1969] 12 RPC 367 ***(refd)***
Seri Iskandar Development Corporation Sdn Bhd v. Pembinaan Daya Tekad Sdn Bhd & Ors [2016] CLJU 627; [2016] 1 LNS 627 HC ***(refd)***
SKB Shutters Manufacturing Sdn Bhd v. Seng Kong Shutter Industries Sdn Bhd & Anor [2015] 9 CLJ 405 FC ***(refd)***
Spring Form Inc v. Toy Brokers Ltd [2002] FSR 276 ***(refd)***
United Telephone Co v. Walker [1887] 4 RPC 63 ***(refd)***
Warner v. Sampson [1959] 1 All ER 120 ***(refd)***
Windsurfing International Inc v. Tabur Marine (Great Britain) Ltd [1985] RPC 59 ***(refd)***

Legislation referred to:

Evidence Act 1950, s. 103
Patents Act 1983, ss. 11, 14, 15, 23, 27A(1), 35(1A), 56(2)
Patents Regulations 1986, regs. 5(1)(b), 12(1)(c), 13(1)

For the appellant - Zulkefli Ahmad Makinudin, Ambiga Sreenevasan, S Sivaneindiren, Janini Rajeswaran, Abu Bakar Isa Ramat, Norhazira Abu Haiyan, Nicholas Mark Pereira, Lim Jing Xian, Mohamed Baharudeen Mohamed Ariff, Siow San San, Tan Yoong Chang, Tey Zhi Pei, Emilia Ting Nguong Xue & Lim Jing Rui; M/s Juen, Jeat, Nic & Nair

For the respondent - Cyrus Das, Robert Lazar, Chew Kherk Ying, Raymond Tan Yan Kai & Mak Ming Jie; M/s Wong & Partners

[Editor's note: For the High Court judgment, please see Kingtime International Ltd v. Petronas Carigali Sdn Bhd [2023] CLJU 1735; [2023] 1 LNS 1735 (overruled).]

Reported by Lina E

JUDGMENT

Faizah Jamaludin JCA:

Introduction

[1] The two appeals before us – Appeal 1457 and Appeal 1458 – have both been filed by the appellant, Kingtime International Limited ("Kingtime").

[2] Kingtime is the registered proprietor of the following patents:

(i) patent no. MY-145004-A ("patent 5004"); and

(ii) patent no. MY-144898-A ("patent 898").

The patent 898 is a divisional of the patent 5004. Both patents have a priority date of 14 May 2008. They are collectively referred to in this judgment as the "Kingtime patents".

[3] These appeals challenge the entire decision of the Kuala Lumpur High Court delivered on 30 August 2023, which dismissed Kingtime's patent infringement claim against Petronas Carigali Sdn Bhd ("PCSB") in Civil Suit No: WA-22IP-55-11-2018 (the "infringement suit"), and allowed PCSB's separate action to invalidate the Kingtime's Patents in Civil Suit No: WA-22IP-17-05-2022 (the "invalidation suit"). For purposes of this judgment, both cases are collectively referred to as the "PCSB suit"; they were consolidated and heard together at a full trial before the High Court.

MOPU Sepat

[4] The subject-matter of these appeals is the MOPU Sepat, which is a mobile offshore production unit ("MOPU"), designed, constructed, installed and commissioned by Petrofac E&C Sdn Bhd ("Petrofac") pursuant to the contract no: CHO/2010/DPG/228 provision of engineering, procurement, construction, installation and commissioning (EPCIC) of Sepat early production system between PCSB and Petrofac dated 20 April 2011 ("Sepat EPCIC contract").

[5] PCSB had awarded Petrofac the Sepat EPCIC contract through a letter of award dated 20 December 2010. The said contract took effect from the date of the letter of award.

[6] The MOPU Sepat, with a detachable wellhead support structure ("WHSS"), was constructed, installed and commissioned at the Sepat field in September 2011. The Sepat field is an oil and gas field – measuring 30km x 10km, located in Block PM313, in 65 to 70m water depth, about 130km from Kuala Terengganu.

[7] In or around June 2017, PCSB separated and removed the WHSS from the MOPU Sepat. The MOPU was towed to the Kemaman supply base, Terengganu and was sold to a third party, Eastern Pacific Marine Services Sdn Bhd, for recycling.

[8] After the WHSS was detached and separated from the MOPU, PCSB installed a temporary jack-up rig to support the WHSS between June 2017 to May 2018 ("WHSS-jack-up rig structure"). PCSB then replaced the jack-up rig with a jacket to support the WHSS for permanent use. The installation of the jacket to support the WHSS was completed in May 2018. The WHSS together with the jacket ("WHSS-jacket structure") has been used by PCSB at the Sepat Field from May 2018 to date.

Petrofac Suit

[9] Kingtime, together with the licensee of the Kingtime Patents – Gryphon Energy (Asia Pacific) Sdn Bhd ("Gryphon") – had in 2015 brought an action against Petrofac in Civil Suit No: 22IP-63-11-2015 ("the *Petrofac* suit") for infringement of the three claims within the Kingtime's patents (collectively referred to as "the relevant claims"):

(i) claim 1 of the patent 5004;

(ii) claim 13 of the patent 5004; and

(iii) claim 1 of the patent 898.

[10] The invention, which is the subject of claim 1 of the patent 5004 is an offshore unit comprising, *inter alia*, a hull and deck frame, a mat, a wellhead deck that is removeably attached to the hull and/or deck frame, and a subsea conductor frame that is removeably attached to the mat (the "product claim"). The inventions, which are the subjects of claim 13 of the patent 5004 and claim 1 of the patent 898, are methods of installing a wellhead platform using the said offshore unit (the "process claim").

[11] Kingtime alleged that Petrofac had infringed the relevant claims, particularly:

(i) claim 1 of the patent 5004 by making, offering for sale, selling and using the MOPU Sepat; and

(ii) claim 13 of the patent 5004 and claim 1 of the patent 898 by using the method of installation to install the MOPU Sepat.

[12] Petrofac counterclaimed to invalidate the relevant claims.

Petrofac Judgment

[13] The High Court after a full trial of the *Petrofac* suit, in its decision dated 11 July 2018 ("*Petrofac* judgment") held that:

(i) the inventions in the relevant claims are new within the meaning of ss. 11 and 14 of the Patents Act 1983 ("PA 1983") ("novelty requirement");

(ii) applying the four-step test in *Windsurfing International Inc. v. Tabur Marine (Great Britain) Ltd* [1985] RPC 59 (the "*Windsurfing* test"), the inventions in the relevant claims involve inventive steps within the meaning of ss. 11 and 15 of the PA 1983 ("inventiveness requirement");

(iii) there has been sufficient disclosure of the inventions in the Kingtime patents according to s. 23 of the PA 1983 read with regs. 5(1)(b), 12(1)(c) and 13(1) of the Patents Regulations 1986 ("disclosure requirement"); and

(iv) the 20 years' duration of the Kingtime Patents takes effect from the priority date of 14 May 2008 in accordance with ss. 27A(1) and 35(1) of the PA 1983; that s. 35(1A) of the PA 1983 does not affect the applications of s. 35(1) of the PA 1983.

[14] The High Court in the *Petrofac* judgment accepted the experts' (SP1 and SP2) opinion that "removeably attached" in the relevant claims, namely that the WHD is "removeably attached" to the hull and/or deck frame, and the SSCF is "removeably attached" to the mat or at least one connecting leg, means that the components are designed to be removeable and reusable during their design life, and not necessarily attached in a specific way like welds or pins, nor requiring a standalone feature.

[15] Wong Kian Kheong J (as he then was) – applying the tests in *Rodi & Weinberger Ag v. Henry Showell Ltd* [1969] 12 RPC 367, at p. 391 ("essential integers test"), *Improver Corp & Ors v. Remington Consumer Products Ltd & Ors* [1990] FSR 181, at p. 189 ("*Improver's* test"); and *Actavis UK Ltd & Ors v. Eli Lilly & Co And Other Appeals* [2018] 1 All ER 171, at para. 66 ("*Actavis'* test") – held that Petrofac's design, construction, installation and use of the MOPU Sepat had infringed all the relevant claims, in that it had:

(i) infringed claim 1 of the patent 5004 by making, offering for sale, selling and using the MOPU Sepat; and

(ii) infringed claim 13 of the patent 5004 and claim 1 of the patent 898 by using the method of construction, installation and operation of the MOPU Sepat.

[16] His Lordship made a finding of fact in the *Petrofac* judgment that Petrofac had infringed the relevant claims. He held:

> [89] Applying the 3 Tests based on the expert opinions of SP1 and SP2, I make the following findings of fact:
>
> (1) the Defendant's use of the method of construction, installation and operation of Sepat MOPU has infringed Claim 1 (Patent 898) and Claim 13 (Patent 5004) within the meaning of s. 36(1)(a) (exploitation of patented process), s. 36(2) and s. 36(3)(b)(i) PA; and
>
> (2) the Defendant's "making", "offering for sale", sale and use of Sepat MOPU has infringed Claim 1 (Patent 5004) within the meaning of s. 36(1)(a), (2) and (3)(a)(i) PA.

[17] The High Court dismissed Petrofac's counterclaim to invalidate the Kingtime patents. It held that Petrofac failed to discharge the burden under s. 56(2) of the PA 1983, read together with s. 103 of the Evidence Act 1950, to prove that the inventions in the relevant claims are not novel; lack of inventive step; and do not comply with the disclosure requirement.

[18] In the *Petrofac* judgment, the High Court declared that Petrofac has infringed claim 1 of the patent 898, and claims 1 and 13 of the patent 5004. It ordered, *inter alia*, that:

(i) an injunction be granted to restrain Petrofac, whether acting by their directors, officers, servants, agents or any of them or otherwise howsoever from infringing patent 898 and patent 5004; and

(ii) Petrofac deliver up or destroy the infringing MOPU Sepat and the removably attached WHSS within 30 days from 11 July 2018.

[19] The *Petrofac* judgment is reported in *Kingtime International Limited & Anor v. Petrofac E & C Sdn Bhd* [2018] CLJU 1658; [2018] 1 LNS 1658.

[20] Petrofac appealed against the *Petrofac* judgment. The appeal was dismissed by the Court of Appeal on 21 January 2020, and its application for leave to appeal to the Federal Court was dismissed on 19 August 2020. The *Petrofac* judgment is thus, a final judgment.

PCSB Suit

Infringement Suit

[21] After the *Petrofac* judgment but before the dismissal of Petrofac's appeal by the Court of Appeal, Kingtime on 13 November 2018 brought the infringement suit against PCSB for infringement of the relevant claims for accepting delivery of the MOPU Sepat, stocking for the purpose of using and/or using the MOPU Sepat and parts thereof.

[22] Kingtime's position is that the decision in the *Petrofac* judgment that the MOPU Sepat had infringed the relevant claims is binding on PCSB. It contends that PCSB's use of the MOPU Sepat and the WHSS infringes the Kingtime patents. In para. 19 of its statement of claim, Kingtime pleads that by virtue of the *Petrofac* judgment and PCSB's acceptance of delivery of the MOPU Sepat from Petrofac, PCSB had infringed the relevant claims by taking delivery, stocking for the purpose of use and/or using the MOPU Sepat or part thereof without Kingtime's consent.

[23] Initially, Kingtime's claim against PCSB in the infringement suit was for patent infringement of the MOPU Sepat, the WHSS-jack-up rig structure and the WHSS-jacket structure. However, in April 2023, Kingtime withdrew its claim for patent infringement against the WHSS-jack-up rig structure and the WHSS-jacket structure.

[24] Therefore, with the withdrawal, Kingtime's claim against PCSB for patent infringement is in respect of the MOPU Sepat only.

[25] PCSB had initially pleaded in its defence that Kingtime's claims for infringement of the Kingtime patents are *res judicata* on, *inter alia*, the ground that PCSB is a privy of Petrofac by virtue of its title in the MOPU Sepat and/or its commercial interest with Petrofac through the Sepat EPCIC contract, and/or the *Petrofac* judgment was a judgment *in rem*.

[26] However, PCSB made a 180-degree turn regarding being a privy of Petrofac and the *Petrofac* judgment being a judgment *in rem*. Pursuant to an application to amend its defence, which was allowed by the High Court's order dated 17 November 2020, PCSB amended its defence to plead that it is not a privy of Petrofac and that the *Petrofac* judgment is a judgment *in personam.*

Invalidation Suit

[27] PCSB on 19 May 2022 brought the invalidation suit against Kingtime, for the invalidation of the Kingtime Patents on the ground that the inventions are not capable of industrial application and lack inventive step. It pleaded that the Kingtime patents were wrongly granted and ought to be invalidated pursuant to s. 56 of the PA 1983.

PCSB Judgment

[28] The learned Judicial Commissioner ("JC") (as he then was) in the PCSB suit made the following findings on the issues of limitation, *res judicata* and estoppel, patent invalidation, and patent infringement:

(i) limitation: All PCSB's acts of accepting delivery, storage and use of the MOPU Sepat prior to 13 November 2013 are time-barred. All acts of storage and use of the MOPU Sepat by PCSB after 13 November 2013 are not time-barred;

(ii) *res judicata* and estoppel: PCSB is not a privy of Petrofac, hence, the *Petrofac* judgment is not binding on PCSB, whether on the ground of *res judicata* or estoppel. The *Petrofac* judgment does not preclude Kingtime from filing the infringement suit against PCSB. And it does not preclude PCSB from filing the invalidation suit against Kingtime;

(iii) patent invalidation: The Kingtime patents are invalid on the grounds of industrial inapplicability and lack of inventive step; and

(iv) patent infringement: The MOPU Sepat does not infringe the Kingtime patents.

[29] Based on these findings, the High Court dismissed Kingtime's infringement suit against PCSB, allowed PCSB's invalidation suit, and invalidated the Kingtime patents.

[30] Though relating to the same subject-matter – the MOPU Sepat, and the same patent claims – the relevant claims, the High Court's decision in the PCSB judgment is diametrically opposed to its earlier decision in the *Petrofac* judgment.

[31] Dissatisfied with the *PCSB* judgment, Kingtime filed both these appeals, which were heard before us on five non-consecutive days.

[32] This judgment contains our decision and its full grounds.

These Appeals

[33] By its notice of appeal, Kingtime appealed the *PCSB* judgment on the grounds that the learned JC erred in holding that PCSB and Petrofac are not privies, which it contends led to the learned JC's erroneous conclusion that (i) the *Petrofac* judgment does not bind PCSB; and (ii) PCSB is not estopped from filing the invalidation suit.

[34] Kingtime's appeal as set out in its memorandum of appeal are on the issues of *res judicata* and estoppel, patent invalidation and patent infringement. It did not frame any ground of appeal to challenge the High Court's decision on the issue of limitation.

Law On Appellate Intervention

[35] The law on appellate intervention is settled. An appellate court must not interfere with the trial judge's conclusions on the primary facts unless it is satisfied that the trial judge was "plainly wrong". A "plainly wrong decision" is a decision arrived by the trial judge due to no or insufficient judicial appreciation of evidence and/or a material error of the law: *Gan Yook Chin & Anor v. Lee Ing Chin & Ors* [2004] 4 CLJ 309; [2005] 2 MLJ 1; [2004] 6 AMR 781; *Ng Hoo Kui & Anor v. Wendy Tan Lee Peng, Administrator Of The Estates Of Tan Ewe Kwang, Deceased & Ors* [2020] 10 CLJ 1; [2020] 12 MLJ 67; [2020] 8 AMR 227 ("*Ng Hoo Kui*").

[36] The Federal Court in *Ng Hoo Kui* reiterated that the "plainly wrong" test was not intended to be used by an appellate court as a means to substitute its own decision for that of the trial court on the facts. As long as the trial court's conclusion can be supported on a rational basis in view of the material evidence, the fact that the appellate court felt like it might have decided differently was irrelevant.

[37] Harmindar Singh Dhaliwal JCA (as he then was) clearly outlined the circumstances that justify appellate intervention in *Nor Azlina Abdul Aziz v. Expert Project Management Sdn Bhd* [2017] 5 CLJ 58; [2017] 3 MLJ 763, where he said:

> [20] Nevertheless there are occasions when appellate interference is warranted and these occasions have been well set out in numerous cases. Some of these occasions are:

(a) where the trial judge took into account irrelevant considerations and failed to give due weight to relevant considerations (see *Director of Forests & Anor v. Mau Kam Tong & Mau Kim Siong (the executors of the estate of Mau Ming, deceased) & Anor and Another Appeal* [2010] 3 MLJ 509);

(b) where there was no proper evaluation of the evidence by the trial judge (see *Lee Nyan Hon & Bros Sdn Bhd v. Metro Charm Sdn Bhd* [2009] 6 MLJ 1);

(c) where the decision arrived at by the trial court was without judicial appreciation of the evidence (see *Gan Yook Chin (P) & Anor v. Lee Ing Chin @ Lee Teck Seng & Ors* [2005] 2 MLJ 1);

(d) where a trial court has so fundamentally misdirected itself, that no reasonable court which had properly directed itself and asked the correct questions, would have arrived at the same conclusion (see *Raja Lob Sharuddin bin Raja Ahmad Terzali & Ors v. Sri Seltra Sendirian Bhd* [2008] 2 MLJ 87);

(e) where the trial judge was plainly wrong in arriving at his decision see *Lee Ing Chin @ Lee Teck Seng v. Gan Yook Chin & Anor* [2003] 2 MLJ 97);

(f) where a trial judge had so manifestly failed to derive proper benefit from the undoubted advantage of seeing and hearing witnesses at the trial, and in reaching his conclusion, has not properly analysed the entirety of the evidence which was given before him (see *First Count Sdn Bhd v. Wang Yew Logging & Plantation Sdn Bhd* [2013] 4 MLJ 693 which followed the Privy Council case of *Choo Kok Beng v. Choo Kok Hoe & Ors* [1984] 2 MLJ 165); and

(g) where the judgment is based upon a wrong premise of fact or of law (see *Perembun (M) Sdn Bhd v. Conlay Construction Sdn Bhd* [2012] 4 MLJ 149).

[38] Thus, in determining whether it is appropriate for this court applying our appellate jurisdiction to intervene in the High Court's decision, it is necessary for us to assess if the learned JC's decision – as the trial judge in the PCSB suit – was one that a reasonable judge could have reached. Consideration must be given to whether his findings were based on an insufficient appreciation of the evidence and/or was based on a wrong premise of facts or of law.

Material Background Facts

[39] The MOPU Sepat was designed, constructed, installed and commissioned by Petrofac at the Sepat field pursuant to the Sepat EPCIC contract.

[40] The oil and gas reserves in the Sepat field is owned by Petroliam Nasional Berhad ("PETRONAS"). PETRONAS is a company incorporated under the Companies Act 1965. Pursuant to the Petroleum Development Act

1974, PETRONAS is vested with "the entire ownership in, and the exclusive rights, powers, liberties and privileges of exploring, exploiting, winning and obtaining petroleum whether onshore or offshore of Malaysia". PETRONAS grants oil and gas companies the right to explore, develop and produce oil and gas onshore and offshore Malaysia, pursuant to the terms and conditions of production sharing contracts ("PSCs") entered between the said companies and PETRONAS.

[41] The first exploration well and the second appraisal well at the Sepat field were drilled by Exxon Exploration and Production Malaysia Inc ("EPMI") in 1970 and 1998, who discovered gas reservoirs in the field. After the expiry of the PSC between EPMI and PETRONAS, EPMI relinquished the Sepat field to PETRONAS. In 2003, PETRONAS drilled an oil discovery well in the Sepat field.

[42] PCSB is a wholly owned subsidiary of PETRONAS. It carries out exploration and production of oil and gas. It had drilled six appraisal wells in the Sepat field from 2006 to 2009. In 2010, PCSB entered into a PSC with PETRONAS for the exploration, development and production of the Sepat field.

AGR's Proposal

[43] In a letter dated 28 March 2007, AGR Asia Pacific Sdn Bhd ("AGR"), a representative of Kingtime in Malaysia, wrote to PCSB enclosing its techno-commercial proposal for providing a complete development of the Sepat field using a mobile offshore production and storage unit ("MOPSU") and floating storage and offloading vessel ("FSO"). In the proposal, AGR proposed three options for PCSB's consideration, where option 3 is for PCSB to install a dedicated wellhead platform and drill the initial development wells through the wellhead platform with a jack-up rig.

[44] This led to a presentation of the proposal by AGR to PCSB on 5 May 2008 and a meeting on 14 May 2008 with PCSB's Sepat project team. The proposal involved utilising Kingtime's technology including a removably attached WHSS capable of being standalone for the development of the Sepat field: see the document titled "Techno-commercial Proposal for the Provision of a Mobile Offshore Production and Storage Unit and Floating Storage and Offloading Vessel for the Sepat Field Development for PETRONAS Carigali Sdn Bhd" dated 4 June 2008 ("proposal").

[45] It was stated in the proposal that, among others, the wellhead deck and the caisson subsea clamp are detachable from the MOPSU. And that the conductor subsea support frame is detachable from mat. The relevant provisions in items 1.7.1 and 1.7.2 of the proposal is produced below:

1.7 MOPSU CONSTRUCTION

1.7.1 Major Components

(iv) *Detachable wellhead deck [WHD]*, to house the wellheads-lx-mas trees and drilling manifolds.

(v) Caisson and/or conductors, to contain drilling casings and to support the wellhead deck when detached from the MOPSU upon demobilization.

(vi) *Caisson subsea clamp or detachable conductor subsea support frame [SSCF]*. The caisson subsea clamp is fitted with quick-release mechanism to detach the caisson to allow it to self-penetrate during platform installation and during demobilization of the MOPSU. *The conductor subsea support frame [SSCF] can be detached from the mat to allow the drilling template to be stand-alone upon MOPSU demobilization.*

...

1.7.2 Construction Methodology

After drilling and production operations, *the wellhead deck [WHD] can be welded to the drilling caisson and detached from the hull.* The caisson sub-sea clamp will then be de-activated and the MOPSU de-installed to leave the offshore site. The caisson will be self-standing and supporting the wellhead deck [WHD] for further well intervention and workovers. *Where conductors are used instead of the caisson, after drilling and production operations, the wellhead deck [WHD] can be welded to the conductors and detailed from the hull. The guide frame at the mat similarly be released* and the MOPSU can be di-installed to leave the conductors free-standing to support the drilling deck.

The caisson that is supporting *the wellhead deck [WHD] will then be stand-alone for further well intervention and workovers.*

(emphasis added)

ITB For Sepat Field EPS Project

[46] In August 2010, PCSB sent out an invitation to bid ("ITB") for the Sepat early production system project ("Sepat EPS tender") to four shortlisted companies, which included Petrofac Malaysia (PM-304) Ltd ("PML"). PML and Petrofac are part of the Petrofac group of companies. Gryphon (the second plaintiff in the Petrofac suit) and PML began talks to submit a joint bid for Sepat EPS Tender. During these discussions, PML learned that the Sepat EPS tender requirements fell within the scope of the Kingtime patents. Consequently, Gryphon and PML signed a "confidentiality and non-disclosure agreement". However, their negotiations did not succeed, and Gryphon ultimately did not take part in the Sepat EPS tender.

[47] In conjunction with the ITB and the Sepat EPS tender, PCSB conducted a project briefing to the four shortlisted companies, where it informed them that the oil accumulation in the Sepat field is large but the development of the field faces significant technical challenges, which may

undermine economic success if not properly addressed. PCSB said that it plans to fully develop the Sepat field with one main central processing platform and about three to four satellite wellhead platforms, while crude export will be *via* a floating storage offloading vessel ("FSO"). Because of the technical challenges in the field development of the Sepat field, it proposed to reduce the project risk by implementing an early production system ("EPS") in order to properly evaluate the Sepat reservoirs prior to full field development.

[48] At the project briefing, PCSB informed the shortlisted companies that:

(i) it planned to develop the Sepat field in two phases: Phase 1 consisting of an EPS commencing in 2012 from eight wells followed by a full field development in Phase 2; and

(ii) that the main components of the EPS, included a MOPU, wellhead structure ("WHS"), FSO and an export hose system for offloading crude from the MOPU to the FSO.

[49] The relevant section of PCSB's briefing slides is produced below:

> EPS Main Components
>
> A relocatable processing facility such as MOPU concept
>
> A wellhead structure (WHS); designed to be integrated with future full development
>
> A floating storage offloading vessel (FSO)
>
> An export Hose System for offloading crude from MOPU to FSO
>
> Facilities should be designed to be easily integrated with the permanent full field facilities when the temporary facilities are demobilized.

[50] In the ITB document dated 11 August 2010 to the bidders, it was stated that the main requirement of the WHSS is that it shall be detachable from the MOPU: see section 3.0 for the wellhead support system (WHSS) scope of works. Item 1.0 of the ITB document's WHSS scope of work reads:

> It is preferred, if technically possible, that the WHSS is designed, fabricated and transported together with the MOPU. However, **the main requirement of the WHSS is that it shall be detachable from the MOPU,** have structural integrity as a standalone structure during the end of Phase 1 production when the Main Support Structure will be demobilized and replaced with a Central Processing Platform (Phase 2) *via* bridge link.
>
> (emphasis added)

[51] Teh Yat Hong ("DW2"), who was the Project Manager of the Sepat project at the material time and PCSB's witness during the trial of the PCSB suit, agreed that PCSB had requested for the proposal from AGR (Kingtime's representative in Malaysia) because it would make Sepat fields, which is a marginal oil field, feasible to be explored.

[52] DW2 also agreed that the detachable sub-sea conductor support frame, the detachable wellhead deck and the caisson or conductor that support the wellhead deck when detached from the MOPU in the ITB document were features in AGR's proposal. DW2's testimony on the matter is produced below:

NOP: Encl. 451 CCB Vol 6, p. 981 lines 6-36; p. 982 line 1	
SS:	Yes. So, what they were also explaining is that the conductor sub-sea support frame *can be detached* from the mat to allow the drilling template to be standalone upon the MPSU demobilisation. Isn't that right? That's what they were intending?
TYH (DW2):	Yes
SS:	Yes. And below that it says, *"The caisson, or the conductors, that support the wellhead deck when detached from the MOPU upon demobilisation."* Do you see that?
TYH:	Yes.
SS:	*So, these were the features that were being proposed in AGR's proposal. Is that correct?*
TYH:	*Yes, it is.*
SS:	Now, Mr Teh, would you agree with me, you either agree or you disagree, my instructions are that *Petronas, after meetings, requested for this proposal because they were interested and keen, as the solutions that were being suggested by AGR would make the Sepat oil field, which was a marginal oil field, more feasible to be explored?*
TYH:	Yes.

(emphasis added)

Issues

[53] The issues for our determination in both these appeals are:

(i) does the *Petrofac* judgment bind PCSB either on the ground of *res judicata* or estoppel?

(ii) if *res judicata* or estoppel applies, is Kingtime estopped from filing the infringement suit or PCSB from filing the invalidation suit?

(iii) if Kingtime is not estopped from filing the infringement suit, whether PCSB infringed the Kingtime patents? and

(iv) if PCSB is not estopped from filing the invalidation suit, should the Kingtime patents be invalidated on the grounds of lack of industrial applicability and lack of inventive step?

Issue (i): Does The Petrofac Judgment Bind PCSB Either On The Ground Of Res Judicata Or Estoppel?

[54] The general principle that there must be an end to litigation means that once a claim or an issue has been determined by a court of competent jurisdiction that claim or issue cannot be litigated as the claim or issue is *res judicata*. The parties to the final judgment and their privies cannot re-litigate the claim or issue.

[55] Both the Petrofac suit and the PCSB suit concern the same subject matter: the MOPU Sepat. However, the High Court reached completely different conclusions in each case. In the *Petrofac* judgment, the court found that the Kingtime patents are valid and Petrofac had infringed the relevant claims of these patents during the design, construction, and installation and commissioning of the MOPU Sepat. Conversely, in the *PCSB* judgment, the court ruled that the Kingtime patents were invalid and that PCSB did not infringe them by accepting delivery, storing for use, or using the MOPU Sepat and parts thereof.

[56] PCSB argues that the learned JC's finding – that the *Petrofac* judgment does not bind PCSB on the grounds of *res judicata* and estoppel – was correct in fact and law, because the *Petrofac* judgment is a judgment *in personam* and that PCSB was not a privy of Petrofac as regards the *Petrofac* judgment.

[57] Whereas Kingtime's case is that the learned JC erred in finding that PCSB and Petrofac are not privies, which led to his erroneous conclusion that the *Petrofac* judgment does not bind PCSB, and PCSB is not estopped from filing the invalidation suit.

[58] Kingtime contends that the learned JC, in arriving at his conclusion that PCSB is not a privy of Petrofac, had disregarded evidence on PCSB's conduct and the position the PCSB had initially took in its pleadings: namely, that it was Petrofac's privy.

[59] Learned counsel for Kingtime submits that the learned JC's conclusion would be unfair to bind PCSB to the *Petrofac* judgment is without basis. He submits that there are two unique features of this case which the learned JC did not give sufficient consideration in arriving at his finding, namely:

(i) first, a critical factor that distinguishes this case from any other patent infringement case is that the *Petrofac* judgment and this PCSB suit involves the very same product: the MOPU Sepat; and

(ii) second, the unconventional manner in which the learned judge (who was the predecessor of the learned JC at the Intellectual Property Court of the Kuala Lumpur High Court) dealt with PCSB's application to amend and change its defence from being a privy of Petrofac to not being a privy of Petrofac.

Res Judicata And Estoppel

[60] What is *res judicata*? *Res judicata* simply means "a matter adjudged". The significance of *res judicata* lies in its effect of creating an estoppel *per rem judicatam*. There are two kinds of estoppel *per rem judicatam*: "cause of action estoppel" and "issue estoppel": see *Carl Zeiss Stiftung v. Rayner & Keeler Ltd & Ors* [1967] 1 AC 853 ("*Carl Zeiss Stiftung*"); *Asia Commercial Finance (M) Bhd v. Kawal Teliti Sdn Bhd* [1995] 3 CLJ 783; [1995] 3 MLJ 189 ("*Asia Commercial Finance*").

[61] "Cause of action estoppel" and "issue estoppel" was explained in *Asia Commercial Finance* by Peh Swee Chin SCJ as follows:

> ... cause of action estoppel arises when rights or liabilities involving a particular right to take a particular action in court for a particular remedy are determined in a final judgment and such right of action, *ie*, the cause of action, merges into the said final judgment;
>
> ... issue estoppel literally means simply an issue which a party is estopped from raising in a subsequent proceeding. However, the issue estoppel, in a nutshell, from a consideration of case law, means in law a lot more, *ie*, that neither of the same parties or their privies in a subsequent proceeding is entitled to challenge the correctness of the decision of a previous final judgment in which they, or their privies, were parties.
>
> ... neither of such parties will be allowed to adduce evidence or advance any argument to contradict such decision.

[62] Lord Guest in *Carl Zeiss Stiftung* explained issue estoppel as follows:

> ... it may be convenient to describe *res judicata* in its true and original form as 'cause of action estoppel'. This has long been recognized as operating as a complete bar if the necessary conditions are present. Within recent years the principle has developed so as to extend to what is now described as 'issue estoppel', that is to say, where in a judicial decision between the same parties, some issue which was in controversy between the parties and was incidental to the main decision has been decided, then that may create an estoppel *per rem judicatam*.

[63] The three basic requirements of issue estoppel detailed by Lord Guest in *Carl Zeiss Stiftung*, was summarised by Mohamed Dzaiddin FCJ (as he then was) in *Kluang Wood Products Sdn Bhd & Anor v. Hong Leong Finance Bhd & Anor* [1999] 1 CLJ 1; [1999] 1 MLJ 193 ("*Kluang Wood Products*") as follows:

> (i) that the same question has been decided;
>
> (ii) that the judicial decision said to create the estoppel was final; and
>
> (iii) that the parties to the judicial decision or their privies were the same persons as the parties to the proceedings in which the estoppel is raised or their privies.

[64] His Lordship went on to explain the word "final" and "the parties or their privies", where he said:

> The word 'final' in requirement (ii) is understood to mean *'final and conclusive on the merits' of the cause and the decision upon which the issue estoppel arises must itself be final in this sense.* It puts an end to and absolutely concludes that particular action' (per Lord Herschell in *Nouvion v. Freeman* (1889) 15 App Cas 1 at p 9).
>
> For requirement (iii), the judgment should have been between the same parties or their privies. According to Lord Guest, *before a person can be a privy to a party, there must be community or privity of interest between them*. His Lordship added that *it was essential that he who is later to be held estopped must have had some kind of interest in the previous litigation or its subject matter. Spencer-Bower and Turner on Res Judicata* (2nd Ed) at p 209 states that *estoppel per rem judicatam operates for, or against, not only the parties, but also those who are privy to them in blood, title, or interest* (see also *16 Halsbury's Laws of England* (4th Ed) at p 874 paras 990-991). (emphasis added)

[65] The High Court in *Seri Iskandar Development Corporation Sdn Bhd v. Pembinaan Daya Tekad Sdn Bhd & Ors* [2016] CLJU 627; [2016] 1 LNS 627; [2016] MLJU 1236, HC ("*Seri Iskandar Development*"), held:

> [19] ... It is not in dispute that the plaintiff was not a party to the earlier action. *It is trite that privity of interest provides an exception to the general principle of the law of estoppel that the estoppel binds only the parties to the previous litigation.* See *Nana Ofori Atta II v. Nanu Aba Bonsra II* [1957] 3 All ER 559 and *House of Spnng Gardens Ltd v. Waite* [1990] 2 All ER 990. (emphasis added)

Privity Of Interest

[66] According to Lord Reid in *Carl Zeiss Stiftung*, as cited with approval by the Federal Court in *Kluang Wood Products* and the High Court in *Seri Iskandar Development*, the required form of privity includes privity of blood, title, or interest. The doctrine of estoppel *per rem judicatam* applies not only to the actual parties involved, but also to individuals who share privity with them by blood, title, or interest (see *Spencer-Bower and Turner on Res Judicata* (2nd edn) p. 209).

[67] In the present matter, the privity, if any, between PCSB and Petrofac is privity of interest, rather than that of blood or title. As Chong Siew Fai CJ (Sabah & Sarawak) observed in *Kluang Wood Products*:

> Then there is the issue of whether Kluang Woods was a privy to Chew so as to be estopped from suing in this action? The relevant privity here is, of course, privity of interest (as opposed to privity of blood or title).

[68] PCSB was not a party to the Petrofac suit. However, estoppel *per rem judicatum* will bind PCSB to the *Petrofac* judgment if it is a privy of Petrofac. For PCSB to be a privy of Petrofac in the *Petrofac* judgment, it must have some kind of interest in the Petrofac suit or its subject-matter – the MOPU Sepat.

[69] Determining what constitutes sufficient interest – enough for a party to be considered privy of another – is ultimately a question of fact. As observed by Stuart-Smith LJ in the English Court of Appeal case *House of Spring Gardens Ltd v. Waite* [1991] 1 QB 241 ("*House of Spring Gardens Ltd*"), "It is not easy to detect from the authorities what amounts to a sufficient interests". However, it is settled that a mere interest in the outcome of the litigation does not meet the threshold for sufficient interest.

[70] In *Gleeson v. J Wippell & Co Ltd* [1977] 3 All ER 54 at p. 515 ("*Gleeson v. Wippell*"), Sir Robert Megarry VC set out the following test for determining whether privity of interest exists:

> I do not say that one must be the alter ego of the other; but it does seem to me that, *having regard to the subject matter of the dispute, there must be a sufficient degree of identification between the two to make it just to hold that the decision to which one was a party, should be binding in proceedings to which the other is a party. It is in that sense that I would regard the phrase 'privity of interest'.* (emphasis added)

[71] Establishing whether privity of interest exists between parties involved in an earlier litigation and those in subsequent proceedings is a fact-specific inquiry. In *Kluang Wood Products*, Chong Siew Fai CJ (Sabah & Sarawak), referencing Megarry VC's test in *Gleeson v. Wippell*, noted:

> It appears the authorities tend to indicate that whether there is sufficient connection to constitute privity of interest would depend on an examination of the factual identity of interests of the parties and the fairness of binding them by a decision in which they were not represented.

[72] The High Court in *Seri Iskandar Development* stated:

> [26] From the foregoing authorities it can be gleaned that the question of whether there is privity of interest between a new member and a party to previous proceedings is highly fact dependent. *In considering whether there is sufficient privity of interest between the parties to justify the application of res judicata, it is necessary to see if there is sufficient degree of identity between them. For a party to be estopped by privity with a judgment obtained in other litigation, it is essential that the new party has some kind of interest, legal or beneficial, in the previous litigation or its subject matter.* (emphasis added)

Does PCSB Have A Sufficient Privity Of Interest In The Petrofac Judgment?

[73] Whether there is sufficient privity of interest between Petrofac and PCSB in the *Petrofac* judgment is a question of fact. A court, having regard to the subject-matter of the dispute – the MOPU Sepat – must determine whether there is sufficient identification or connection between Petrofac's and PCSB's degree of interest to render it just for the *Petrofac* judgment to be binding on PCSB in the PCSB suit.

[74] PCSB in its re-amended defence pleaded that it is not a privy of Petrofac. The learned JC agrees. He held that PCSB is not a privy of Petrofac by reason of the Sepat EPCIC contract. He held in the *PCSB* judgment:

> 79. I find that the EPCIC Contract and the employer-contractor relationship between PCSB and Petrofac did not make PCSB a privy of Petrofac. Though the transaction was of a commercial nature, it did not make them privies. To hold so would render the parties to every transaction of a commercial nature privies to each other, when in reality they were simply contracting parties. Being contracting parties, *per se*, is not enough: from these cases I mentioned it is necessary that there is sufficient degree of identity, identification of connection between them, or some kind of legal or beneficial interest in the Petrofac Suit to make them privies.
>
> 80. For the same reasons, I also find that PCSB's acceptance of the MOPU Sepat also did not make PCSB a privy of Petrofac because that acceptance was pursuant to the terms of the EPCIC contract.
>
> For avoidance of doubt, I further find that the EPCIC Contract and PCSB's acceptance of the MOPU Sepat also do not collectively make PCSB and Petrofac privies.

[75] Before analysing the extent of PCSB's interest in the MOPU Sepat, we wish to first address the matter raised by Kingtime regarding PCSB's amendment of its defence in the PCSB suit. Specifically, PCSB amended its pleading from being a privy of Petrofac to the contrary – that it is not a privy of Petrofac.

[76] We agree with the learned JC that because the High Court had allowed PCSB's application to amend its defence to plead that it is not privy of Petrofac, the parties and the court are bound by the amended pleadings. Once an amendment to pleadings has been allowed, what was in the pleadings prior to the amendment is no longer relevant and does not form the pleadings before the court: see *Warner v. Sampson* [1959] 1 All ER 120. Abdul Malek Ishak J in *M-Fold Development Sdn Bhd v. Altrue Sdn Bhd* [2002] MLJU 71 held:

> It is now trite law that once an amendment has been allowed, the action continues as if the amendment has been inserted from the very beginning.

[77] On the issue of whether PCSB has sufficient privity of interest in the *Petrofac* judgment, we find – based on the English cases of *Carl Zeiss Stiftung Gleeson v. Wippell* and *House of Spring Gardens*, as applied by our courts in *Kluang Woods* and *Seri Iskandar Development* – that the learned JC erred in deciding that PCSB did not have such privity of interest. Our reasoning is set out in detail below.

[78] We note from the PCSB judgment, the learned JC – in arriving at his finding – did not fully consider the terms and conditions of the Sepat EPCIC contract, in particular the scope of works for the MOPU Sepat in exh. 1: Appendix 1 of the MOPU Sepat (in exh. 1: Appendix 1 of the Sepat PSC EPCIC contract: encls. 39 and 40 rekod rayuan pp. 4979 to 5101) ("MOPU scope of works").

[79] The learned JC made a finding in para. 79 of the *PCSB* judgment that though the EPCIC contract "was commercial in nature" and that the employer-employee relationship between PCSB and Petrofac, who were "merely contracting parties", was insufficient to make them privies.

[80] Because the question of whether there is sufficient privity of interest between parties is ultimately a question of fact, it would be reasonable for a judge to conduct a comprehensive analysis of the ITB that led to the award of the Sepat EPCIC contract by PCSB to Petrofac, the rights and obligations of the parties pursuant to the terms and conditions of the Sepat EPCIC contract, particularly in the MOPU scope of works.

[81] However, the *PCSB* judgment does not demonstrate that the learned JC had undertaken such an analysis. Also, there appears to be no examination of the facts by the learned JC of PCSB's degree of interest in the MOPU Sepat before making his finding that PCSB is not a privy of Petrofac. Such an examination is essential to ascertain the extent of PCSB's interest in the subject matter of the Petrofac suit – specifically the MOPU Sepat – and to evaluate the degree of identification and connection between PCSB and Petrofac regarding the MOPU Sepat. As held by Megarry VC in *Gleeson v. Wippell*, the assessment is necessary to determine whether there is a sufficient degree of interest between PCSB and Petrofac to make it just to hold the *Petrofac* judgment should be binding on PCSB in the PCSB suit.

[82] The learned JC did not consider the fact that the MOPU Sepat was specifically constructed by Petrofac for PCSB's EPS for the Sepat field; that a MOPU with a detachable WHSS was one of the options proposed by AGR to enable PCSB to undertake the EPS at the Sepat field, which is a marginal field with technical challenges; and that the Sepat EPS tender requirements issued by PCSB fell within the scope of Kingtime patents. Nor did he consider PCSB's close involvement and participation during all stages of the engineering, design, procurement, construction, installation, and commissioning of the MOPU Sepat under the Sepat EPCIC contract.

[83] As shown in the documents, adduced during the trial of the Petrofac suit and PCSB suit, the Sepat field is a marginal field, and its field development was technically challenging, which was why PCSB decided to develop the field in two phases: first through an EPS in order to reduce the project risk; and second, full field development after evaluation of the oil reservoirs at the Sepat field. The EPS allowed testing and initial production of oil without the need to incur substantial costs of fixed platforms.

[84] The work scope in the ITB issued by PCSB for the EPCIC contract for the Sepat EPS project, among others, stated that the WHSS is to be designed, fabricated and transported together with the MOPU to the Sepat field and that the main requirement of the WHSS is that it shall be detachable from the MOPU.

[85] During the briefing for the ITB bidders, PCSB indicated that the main component of the Sepat EPS are an FSO and a MOPU with a removable WHSS that was designed to integrate with full field development in the second phase of the Sepat field development.

[86] DW2, who was PCSB's project manager for the Sepat field, agreed under cross-examination that the concept for the removable WHSS and the conductor subsea support frame (CSSF) to be detachable from the mat to allow for the drilling template to be standalone upon the MOPU's demobilisation were features that were proposed by AGR to PCSB in the AGR proposal in 2008 to make the Sepat field more feasible to be explored and developed. AGR, was Kingtime's representative in Malaysia. The MOPU's detachable WHSS and CSSF are features in the Kingtime patents, and are the subject of Kingtime's relevant claims in the Petrofac suit and the PCSB suit.

Sepat EPCIC Contract And MOPU Scope Of Works

[87] Petrofac's key deliverables under the Sepat EPCIC contract were the design, engineering, procurement, fabrication and conversion of a retired jack-up rig to a MOPU; installation and commissioning of a wellhead deck, subsea spacer frame, floating hoses, all utility and production systems, accommodation and life support systems; certification and approval by classification societies, PCSB and authorities.

[88] PCSB's involvement in the engineering and design, procurement, construction, installation and commissioning of the MOPU Sepat is evident from the MOPU scope of works. The MOPU scope of works outlines the detailed scope of works for the design, engineering, procurement, construction, installation, commissioning, and delivery of the MOPU Sepat for the Sepat EPS project contracted by PCSB from Petrofac under the Sepat EPCIC contract.

[89] It is expressly stated in the MOPU scope of works that PCSB shall be involved in all stages of the design process of the MOPU Sepat, and Petrofac shall allow the PCSB to participate constructively in the design process.

[90] In addition, the MOPU scope of works expressly stipulate that Petrofac's design basis for the MOPU shall be based on PCSB's design basis "suitably modified and endorsed". And that each subsequent revision to the MOPU's design basis made by Petrofac shall be submitted to PCSB for review, and if necessary, any relevant authority for their approval.

[91] Furthermore, the MOPU scope of works expressly states that the work shall be carried out in close consultation with PCSB, and that PCSB shall be given the right to attend Petrofac's technical and progress meetings with its subcontractors throughout execution of the contract.

[92] These provisions are in section 4.0 of the MOPU scope of works, which are produced below

> 4.0 Scope of Works
>
> 4.1 Introduction
>
> This section and subsequent sections provide the engineering and design basis for the MOPU in addition to CONTRACT document, as well as additional technical information associated with the load out, seafastening, transportation, installation and commissioning of the MOPU and associated work.
>
> *CONTRACTOR shall, subject to the endorsement of the PETRONAS CARIGALI design basis, develop the engineering and design documents for the MOPU and its associated SYSTEMS* and shall include the wellhead deck, the floating hoses and all associated process and utility equipment and auxiliary support services *necessary to develop the Sepat EPS Field MOPU and export treated crude oil to an adjacent FSO.*
>
> 4.2 Scope of Works
>
> *The WORK shall be carried out in close consultation with PETRONAS CARIGALI, which shall be given right to attend CONTRACTOR'S technical and progress meetings with SUBCONTRACTORS throughout execution of the CONTRACT.*
>
> ...
>
> 4.6.2 Design Basis Documentation
>
> The CONTRACTOR shall develop a document that fully details the CONTACTOR'S Design Basis (DB) of the MOPU. *The DB shall be based on the PETRONAS CARIGALI's design basis suitably modified and endorsed* and shall include all additional information that becomes during design development which fully details the MOPU and all facilities included under the CONTRACT.
>
> The CONTRACTOR shall revise the DB at regular intervals to reflect the development of the CONTRACTOR'S design and as a minimum within two (2) weeks after CONTRACT AWARD and as maybe required after that time. *Each subsequent revision of the DB made by the CONTRACTOR shall be submitted to the PETRONAS CARIGALI for review* and, if necessary, any relevant Authority for their approval.

4.6.3 Engineering and Design

0.0.0.1 General

The CONTRACTOR shall complete all engineering design as necessary to convert the Retired Rig to a MOPU in accordance with the Design Basis and any other relevant provision in this CONTRACT.

...

0.0.0.4 PETRONAS CARIGALI's Involvement in the Design Process

The CONTRACTOR shall involve PETRONAS CARIGALI at all stages of the design process of the MOPU including Inter-Disciplinary Checks and shall allow the PETRONAS CARIGALI to participate constructively in the design process. The PETRONAS CARIGALI shall participate in design activities including:

... (emphasis added)

[93] Under the Sepat EPCIC contract, Petrofac is to convert a suitable rig into a MOPU. The MOPU is converted from a retired rig. Pursuant to section 8.0 of the MOPU scope of works, PCSB is involved in the inspection of the proposed retired rig to be converted into the MOPU for the Sepat field. It states, among others, that Petrofac to extend the invitation to PCSB for the joint inspection of the rig with the class inspector. Section 8.0 of the MOPU scope of works reads:

8.0 Inspection Of Retired Rig For Conversion

General requirements

1. CONTRACTOR is responsible at all costs to carry out the inspection of proposed retired rig for conversion into MOPU at country or site of origin.
2. CONTRACTOR shall nominate CLASS to carry out inspection of the rig.
3. *CONTRACTOR to extend the invitation to PETRONAS CARIGALI for join inspection of the rig together with CLASS inspector.*
4. *CONTRACTOR inspection shall be thorough and all punch lists shall be populated and agreed by CLASS and PETRONAS CARIGALI.*
5. *PETRONAS CARIGAL1 may appoint his own inspector for the purpose of verification and concurrence to CLASS findings.*
6. The inspection and survey of the rig shall include but not limited to the followings

A CONTRACTOR shall include in the proposal all costs to replace the equipment, piping, cables, E&I cable trays, hull plating's, cleaning, removing, upgrading items *that are not accepted and rejected by CLASS and PETRONAS CARIGALI during the inspection or during repair work at the point of origin.* (emphasis added)

B **[94]** Moreover, although section 8.0(2) of the MOPU scope of works states that Petrofac shall nominate the class to carry out the inspection of the rig to be converted into the MOPU, the classification society that carries out the class inspection must be approved by PCSB: see art. 2 of the Sepat EPCIC contract.

C **[95]** "Class" and "classification society" are defined in art. 2 of the Sepat EPCIC contract (in encl. 39 rekod rayuan p. 4892) as follows:

2.4 "Class" means the classification notation certified by the Classification Society in accordance with the American Bureau of Shipping (ABS) guideline or alternate IACS bodies.

D 2.5 "Classification Society" means an international classification society that is itself a full member of the International Association of Classification Societies (IACS) **and is APPROVED by PETRONAS CARIGALI** and recognised in the petroleum industry as an experienced company having established and tested documented rules and guidelines for the conversion, construction, mooring, installation, survey and

E commissioning of an FSO or MOPU. (emphasis added)

[96] Section 1.0 of the MOPU scope of works states that the design, engineering, procurement and fabrication and installation of the wellhead deck, subsea spacer frame "all of which will be subject to PETRONAS

F CARIGALI review and comment".

[97] Petrofac is contractually required to, at a minimum, utilise PCSB's pre-approved fabricator's standard procedure (FSP) and utilise PCSB standard procedure (CSP), PETRONAS technical standards (PTS) as a guideline and reference. Section 1.0 of the MOPU scope of works is

G produced below:

1.0 Scope of supply

...

In addition, Contractor Scope of Work shall include but not limited to the

H following and as indicative of the minimum scope for the conversion of a suitable rig to a MOPU by the contractor.

Design, Engineering, Procurement And Fabrication for a conversion of a retired rig to a MOPU;

Design, engineering, procurement and fabrication and installation

I of *wellhead deck, subsea spacer frame, all of which will be subject to Petronas Carigali review and comment;*

...

Contractor shall as minimum utilized the local fabrication yard, *Petronas Carigali's pre-approved Fabricator's Standard Procedure (FSP) and utilise Petronas Carigali Standard Procedure (CSP), Petronas Technical Standards (PTS) as a guideline and reference.* (emphasis added)

[98] Section 2.0 of the MOPU scope of works states that refurbished equipment offered for use in the MOPU must be identified and mutually agreed by PCSB in writing.

2.0 Codes, Standards And Regulations

As a minimum, the MOPU and all its system component, shall be upgraded, refurbished, replaced, rejuvenate, re-conditioned, supplied and delivered in accordance with the CLASS, relevant section of National/ International Codes, Standards and Regulations or Equivalent alternatives, refurbished equipment may be offered and **these should be identified and mutually agreed on by PETRONAS CARIGALI in writing.** Any deviation from Contract shall follow Petronas Carigali's Management of Change (MOC) procedure.

(emphasis added)

[99] As regards the installation of the MOPU Sepat at the Sepat field, pursuant to section 5.0 of MOPU scope of works, the installation of the MOPU shall be undertaken in strict compliance with the installation plan that has been approved by the marine warranty survey and by PCSB.

Section 5.0 reads:

5.0 Load Out And Transportation

5.0.2 Installation

The Contractor shall install the MOPU at Site in accordance with the Installation plan *provided that the Contractor shall not commence installation of the MOPU until it has obtained written approval from the marine warranty survey and PETRONAS CARIGALI.*

The installation of the MOPU shall be undertaken by the CONTRACTOR in strict compliance with the approved Installation Plan unless otherwise agreed by the PETRONAS CARIGALI and the marine warranty surveyor and shall include all services that maybe required for such installation including diving support, ROV and support equipment where necessary.

(emphasis added)

[100] The learned JC did not consider or analyse any of these terms and conditions. If he did, he would have appreciated that the degree of PCSB's interest and involvement in design, engineering, construction and installation of the MOPU Sepat, as well as the wellhead deck and the subsea spacer frame: see section 1.0 of the MOPU scope of works.

[101] Instead, the learned JC in para. 86 of the *PCSB* judgment addressed the issue of "whether it would be fair and just to bind PCSB to the *Petrofac* judgment even though it was not a party to the Petrofac suit" by comparing the differences between Petrofac suit and PCSB suit. After comparing the differences in the suits, the learned JC concluded in para. 88 of the *PCSB* judgment:

> 88. With these stark differences between these two Suits and the Petrofac Suit, it would not be fair or just to bind PCSB to the Petrofac Judgment.

[102] With respect to the learned JC, he fell into error in deciding whether or not it is just to bind PCSB to the *Petrofac* judgment by comparing the differences between the Petrofac suit and PCSB suit. The differences between the suits are not relevant factors to be taken into consideration in deciding whether it is just to bind PCSB to the *Petrofac* judgment The correct test is whether there is a sufficient degree of identification and connection, and interest in the subject matter of the dispute, between Petrofac and PCSB in the previous suit and the present suit to make it just to hold that the *Petrofac* judgment should be binding on PCSB in the PCSB suit: see the judgments of Megarry VC in *Gleeson v. Wippell*; and Mohamed Dzaiddin FCJ (as he then was) and Chong Siew Fai CJ (Sabah & Sarawak) in *Kluang Wood Products* (all quoted above).

[103] For these reasons, we find that the learned JC had considered factors that are irrelevant and had failed to sufficiently consider evidence that are relevant in his examination of the factual identity and connection of Petrofac's and PCSB's interest in the MOPU Sepat.

[104] Therefore, upon careful examination of PCSB's and Petrofac's conduct, the main components of the MOPU Sepat in PCSB's ITB document for the Sepat EPS tender, and the close involvement of PCSB in Petrofac's design, procurement, construction, installation and delivery of the MOPU Sepat in accordance with the terms and conditions of Sepat EPCIC contract, we find that based on these facts PCSB does have a sufficient degree of identification and connection with Petrofac and a common interest in the MOPU Sepat, that makes it just to hold that PCSB is bound by the decision in the *Petrofac* judgment in the PCSB suit.

[105] In our view, the learned JC's conclusion that PCSB does not constitute a privy of Petrofac in the context of the *Petrofac* judgment is erroneous for several reasons. First, there was an inadequate appreciation of the available evidence regarding the degree of PCSB's involvement and interest in the design, engineering, construction, and installation of the MOPU Sepat. This involvement is clearly documented in the relevant contractual terms in the Sepat EPCIC contract, in particular the MOPU scope of works, which were not sufficiently considered. Secondly, the learned JC's analysis was undermined by the consideration of factors that were not relevant to the issue

at hand. Rather than focusing on the factual identity and connection between PCSB and Petrofac, and the common interest shared in the MOPU Sepat, he had considered the distinctions between the Petrofac suit and the PCSB suit. This led to a lack of sufficient evaluation of the factors that are truly relevant to determining privity of interest. Thirdly, there was a misdirection in the application of the correct legal test for privity of interest. The correct approach requires evaluating whether there is a sufficient degree of identification, connection, and interest between the parties in the subject matter of the dispute, as established in the authorities cited above. The learned JC failed to properly apply these principles, resulting in an erroneous conclusion regarding PCSB's status as a privy of Petrofac. For these reasons, it is clear that the learned JC's finding on the issue of privity was based on an incomplete and incorrect analysis of both the evidence and the law.

[106] Accordingly, we are compelled to disagree with the learned JC's conclusion that PCSB does not have privity of interest in the MOPU Sepat and is not Petrofac's privy in the *Petrofac* judgment. We are of the respectful view that the learned JC's decision on the issue of *res judicata* and estoppel represents a case where appellate intervention is warranted under the "plainly wrong" test.

[107] Therefore, we find that PCSB is bound by the *Petrofac* judgment on the grounds of *res judicata* and estoppel.

Issue (ii): If Res Judicata Or Estoppel Applies, Is Kingtime Estopped From Filing The Infringement Suit Or PCSB From Filing The Invalidation Suit?

[108] The *Petrofac* judgment is binding on the parties to the Petrofac suit and its privies. Accordingly, the *Petrofac* judgment is binding on Kingtime and Petrofac and its privy, PCSB. Pursuant to the principles of *res judicata* and estoppel, Kingtime, Petrofac and PCSB are estopped from challenging or re-litigating the *Petrofac* judgment.

[109] Kingtime's infringement suit against PCSB is for the latter's use and/or stocking for the purpose of using the infringing MOPU Sepat, which was held in the *Petrofac* judgment to have infringed the Kingtime patents, in particular the relevant claims.

[110] A patentee is entitled to pursue a claim of infringement against the customer of the initial infringer: see *United Telephone Co v. Walker* [1887] 4 RPC 63; *Spring Form Inc v. Toy Brokers Ltd* [2002] FSR 276; *Main-Line Corporate Holdings Ltd v. United Overseas Bank Ltd And Another (First Currency Choice Pte Ltd, Third Party)* [2010] 1 SLR 189 ("*Main-Line Corporate Holdings*"). In the Singapore case of *Main-Line Corporate Holdings*, Belinda Ang J (as she then was) held:

A [45] ... The causes of action here were separate and distinct in that one stemmed from FCC's infringing acts relating to the creation of the FCC System prior to UOB's involvement, and the other stemmed from the subsequent agreement between UOB and FCC.

[111] Kingtime's cause of action against Petrofac is separate and distinct B from its cause of action against PCSB; the former arose from Petrofac's infringing acts related to the design, construction, installation, and commissioning of the MOPU Sepat, while the latter stemmed from PCSB's infringing acts in taking delivery, use, and/or stocking for purposes of use the MOPU Sepat and its parts thereof. Therefore, as the owner of the C Kingtime Patents, Kingtime is entitled to pursue a claim for infringement against PCSB.

[112] Kingtime had brought the infringement suit against PCSB for separate and distinct infringing acts from Petrofac's infringing acts. It is not seeking to challenge or relitigate the *Petrofac* judgment. Accordingly, *res judicata* does D not apply and Kingtime is not estopped by the *Petrofac* judgment from filing the infringement suit against PCSB.

[113] As a privy of Petrofac, PCSB is bound by the decision in the *Petrofac* judgment, which determined that the Kingtime patents are valid. PCSB is therefore estopped from contesting or re-litigating the validity of the E Kingtime patents, as this matter has already been conclusively adjudicated by a court of competent jurisdiction.

[114] Upon careful consideration of the aforementioned reasons, we find that Kingtime is not estopped from instituting the infringement suit against PCSB. The basis for this conclusion lies in the fact that Kingtime's cause of F action against PCSB is distinct and separate from its claim against Petrofac, and it does not involve re-litigating issues already determined in the *Petrofac* judgment. As such, the doctrine of *res judicata* does not operate to bar Kingtime's infringement suit.

G **[115]** In contrast, PCSB, as a privy of Petrofac, is bound by the findings and determinations made in the *Petrofac* judgment. Therefore, PCSB is estopped from commencing the invalidation suit to re-open issues relating to the validity of the Kingtime patents that have already been conclusively adjudicated in the *Petrofac* judgment. The doctrine of *res judicata* operates to prevent PCSB from re-litigating matters relating to the validity of the H Kingtime patents that have previously been determined by a court of competent jurisdiction in the *Petrofac* judgment.

Issue (iii): Whether PCSB Infringed The Kingtime Patents?

[116] The High Court in the *Petrofac* judgment held that Petrofac's design, I construction, installation and use of the MOPU Sepat had infringed all the relevant claims of the Kingtime patents. Accordingly, we find that PCSB by

reason of its taking delivery, use and/or stocking for the purpose of use of the infringing MOPU Sepat for the Sepat field's EPS, had infringed the Kingtime patents.

[117] We find that PCSB had infringed the Kingtime patents from the date it took delivery of the infringing MOPU Sepat until its subsequent delivery of the MOPU Sepat at the Kemaman supply base to Eastern Pacific Marine Services Sdn Bhd, the third-party purchaser to whom PCSB had sold the MOPU Sepat for recycling.

[118] Kingtime has withdrawn its patent infringement claim regarding PCSB's use of the WHSS-jack-up rig structure and the WHSS-jacket-structure. Consequently, we find there is no basis to hold PCSB liable for patent infringement with respect to its activities involving these structures.

Issue (iv): If PCSB Is Not Estopped From Filing The Invalidation Suit, Should The Kingtime Patents Be Invalidated On The Grounds Of Lack Of Industrial Applicability And Lack Of Inventive Step?

[119] As PCSB is estopped from filing the invalidation suit by reason of *res judicata*, issue (iv) is rendered academic.

[120] However, should it be determined that PCSB is not a privy of Petrofac and, consequently, is not estopped from filing the invalidation suit by reason of the *Petrofac* judgment, we find that, based on the Federal Court's majority decision in *Merck Sharp & Dohme Group & Anor v. Hovid Bhd* [2019] 9 CLJ 1; [2019] 12 MLJ 66 ("*Merck Sharp & Dohme*"), the learned JC erred in invalidating the Kingtime patents premised only on his assessment that the relevant claims are invalid.

[121] The sole question of law before the Federal Court in *Merck Sharp & Dohme* was:

> Where an independent claim is adjudged to be invalid, whether claims which are dependent on the said independent claim would be automatically rendered invalid without the need for the Court to consider separately the validity of each and every dependent claim[s]?

[122] The Federal Court, by a majority, answered the question in the negative. It held that the invalidity of independent claims alone does not constitute sufficient grounds to invalidate an entire patent. This was a departure from the court's earlier decision in *SKB Shutters Manufacturing Sdn Bhd v. Seng Kong Shutter Industries Sdn Bhd & Anor* [2015] 9 CLJ 405; [2015] 6 MLJ 293 ("*SKB Shutters*"), where it held that the invalidation of an independent claim necessitated the invalidation of all dependent claims. The Federal Court in *Merck Sharp & Dohme* found that the reasoning in *SKB Shutters* was based on an incomplete examination of the law pertaining to invalidity claims. It said at [2019] 9 CLJ 1; [2019] 12 MLJ 66 at p. 38 (CLJ); p. 109 (MLJ):

A [140] We are of the opinion that the principle established in *SKB Shutters* that when an independent claim is invalid, all dependent claims dependent on the said independent claim also fall with it, fails to take into account the myriad of other claims and bases of challenge that routinely arise in patent adjudication.

B **[123]** The Federal Court, in its majority judgment, held that when an independent claim is ruled invalid, it is essential to fully examine claims dependent on the said invalidated independent claim to assess their validity. It emphasised that dependent claims may contain additional features that could render such claim independently valid, and as such, a blanket C invalidation without individual analysis risks depriving a patentable invention of protection. This approach aligns with patent practice globally, and with accepted and established case law.

[124] Nallini Pathmanathan FCJ (delivering the majority judgment of the Court) at [2019] 9 CLJ 1; [2019] 12 MLJ 66 pp. 35 to 37 (CLJ); pp. 108 D to 109 (MLJ) said:

[124] For all the reasons that we have given above, our answer to the leave question is in the negative. *When an independent claim is deemed to be invalid, it does not necessarily follow that all dependent claims which make reference to the said independent claim will automatically fail.*

E [136] The validity of these dependent claims will ultimately depend on the form of claim used, whether type 1 or type 2, and the basis of challenge to their validity. *A trial court can only ascertain the type of claim before it through undertaking the evidential process of examining each claim separately. If it fails to do so, the trial court may well overlook any additional features embedded within a dependent claim that could render such claim independently valid. The serious* F *consequence of failing to undertake this examination is that a patentable invention would not be protected.*

[137] If the claims are of type 1 form and the basis of challenge relates to prior art (lack of inventive step/obviousness or lack of novelty/ anticipation), then, when the independent claim is invalidated, *the claims* G *dependent on the said independent claim may also be declared to be invalid, but only after the trial court undertakes the evidential process described above* (unless there is an express concession).

[138] Where the claims are of type 2 form and the basis of opposition relates to prior art, *the dependent claims, when the independent claim is* H *invalidated, have to be addressed separately to determine their validity. This is because they may have additional features that have not been disclosed by prior art or prior publications.*

[139] And if the basis of challenge does not relate to prior art, then the language and structure of all claims will have to be addressed separately to determine their scope, interdependency, and validity on a case by case I basis. This also requires the court to undertake the evidential process.

(emphasis added)

[125] In her book *Intellectual Property Law in Malaysia* (2nd edn, Sweet & Maxwell), Tay Pek San discusses the grounds of patent invalidation and the Federal Court's decision in *Merck Sharp & Dohme*:

> [28.049] It is not ground to invalidate a patent simply because the Court finds that the independent claims of the patent are invalid ... The Federal Court held that in determining which dependent claims would be rendered invalid when an independent claim upon which they are dependent is found to be invalid, it was necessary for the Court to read and construe the independent and dependent claims in full and hear evidence in respect of each of those dependent claims.

[126] In the PCSB Suit, the learned JC ruled the Kingtime patents are invalid solely on the basis of his finding that the relevant claims are invalid. Specifically, at para. 254 of the *PCSB* judgment, he held that the relevant claims lacked inventive step based on the "PCSB's prior arts". Premised on this finding, the learned JC went on to hold at para. 259 of the judgment that the Kingtime patents are invalid for lack of inventive step.

[127] Furthermore, in *Merck Sharp & Dohme* at [2019] 9 CLJ 1; [2019] 12 MLJ 66 at p. 23 (CLJ); p. 95 (MLJ), the Federal Court held:

> [58] In cases where the validity of patents is challenged based on prior art, it is imperative to consider the type of the claim as it will have an effect on the validity of dependent claims.

[128] Nonetheless, the learned JC in the PCSB suit did not consider what type of claim was each of the relevant claims – whether they were type 1 and/or type 2 claims. He also did not carry out a separate assessment of each claim dependent on the invalidated relevant claims before ruling that the Kingtime patents are invalid. Based on *Merck Sharp & Dohme*, it was incumbent upon the learned JC, as the trial judge, to undertake the evidential process of examining each of the dependent claims separately before deciding to invalidate the Kingtime patents. The Federal Court at [2019] 9 CLJ 1; [2019] 12 MLJ 66 at p. 24 held:

> [61] ... it is crucial to note that in order to determine and hold that all the dependent claims fall if the independent claim fails, the trial court undertakes the exercise of hearing evidence to this effect. The trial court does not arrive at this conclusion without the benefit of such evidence. *In short, a technical expert witness approximating the person ordinarily skilled in the art is expected to assist the court in confirming that there are no additional features that make the dependent claim independently valid. The court will then in a position to determine that all the dependent claims fall after the independent claim fails.*
>
> [62] This position is echoed in *Raychem* (above) at para 48 where Laddie J expressly stated that *the challenger in a patent invalidity suit has to adduce evidence to proving the invalidity of all claims, meaning both independent and dependent claims.* (emphasis added)

[129] At the trial before the High Court, PCSB only adduced evidence to prove the invalidity of the relevant claims. It did not adduce evidence proving the invalidity of all claims – both independent and dependent claims – in the Kingtime patents. Furthermore, PCSB's expert witnesses did not confirm that there are no additional features in the Kingtime patents that make the dependent claims independently valid.

[130] It is clear from the *PCSB* judgment that the learned JC failed to undertake the necessary assessments prior to invalidating the Kingtime patents. This approach is contrary to the requirements set forth in *Merck Sharp & Dohme* and does not fulfil the evidential obligations expected of a trial judge presiding over an invalidation suit. Although the learned JC noted in para. 7 of the *PCSB* judgment that patent 5004 has 39 claims and patent 898 has ten claims, and referenced the Federal Court's decision in *Merck Sharp & Dohme* in para. 35, inexplicably he did not undertake the required evidential analysis of the other claims in patent 5004 and patent 898 prior to holding both Kingtime patents invalid.

[131] Accordingly, on issue (iv), if PCSB is not estopped from filing the invalidation suit, we find that because the learned JC's omission to undertake the evidential process of examining each dependent claim separately, the Kingtime patents should not be invalidated on the grounds of lack of industrial applicability and lack of inventive step.

Conclusion

[132] For the above reasons, we conclude that Kingtime has satisfactorily established that PCSB is a privy of Petrofac and, consequently, is bound by the *Petrofac* judgment under the doctrine of *res judicata* and estoppel.

[133] As a result, PCSB is estopped from filing the invalidation suit to re-litigate the *Petrofac* judgment regarding the validity of the Kingtime patents.

[134] We further find that Kingtime is not estopped from commencing the infringement suit against PCSB in relation to taking delivery, stocking for the purpose of use, and/or use of the infringing MOPU Sepat, as it constitutes a distinct infringement of the Kingtime patents by PCSB, separate from the infringement of the said patents by Petrofac. Moreover, Kingtime is not seeking to relitigate the *Petrofac* judgment.

[135] Even if PCSB is not estopped from filing the invalidation suit, we find that the learned JC was plainly wrong to have invalidated the Kingtime patents based solely on his finding that the relevant claims are invalid, without undertaking the evidential process of examining separately all the dependent claims within the Kingtime patents, as stipulated by the Federal Court in *Merck Sharp & Dohme*.

[136] Based on the foregoing reasons, we conclude that the High Court was plainly wrong in dismissing Kingtime's infringement suit against PCSB and allowing PCSB's invalidation suit against the Kingtime patents. As such, it is our view that appellate intervention is warranted.

Decision

[137] Accordingly, we allow Kingtime's appeals. The order of the High Court dated 30 August 2023 is set aside.

[138] As the infringing MOPU Sepat has been sold by PCSB to a third party, we remit the matter to the High Court for assessment of damages for the period of infringement.

[139] Interest at the rate of 5% per annum on the sum of damages awarded by the High Court, after assessment, from the date of judgment until full payment.

[140] PCSB to pay Kingtime costs here and below of RM950,000, subject to allocatur.

[141] PCSB to refund the costs of RM800,000 paid by Kingtime under the High Court's order.